

**CIHM  
Microfiche  
Series  
(Monographs)**

**ICMH  
Collection de  
microfiches  
(monographies)**



**Canadian Institute for Historical Microreproductions / Institut canadien de microreproductions historiques**

**© 1997**

## Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming are checked below.

- Coloured covers / Couverture de couleur
- Covers damaged / Couverture endommagée
- Covers restored and/or laminated / Couverture restaurée et/ou pelliculée
- Cover title missing / Le titre de couverture manque
- Coloured maps / Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black) / Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations / Planches et/ou illustrations en couleur
- Bound with other material / Relié avec d'autres documents
- Only edition available / Seule édition disponible
- Tight binding may cause shadows or distortion along interior margin / La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure.
- Blank leaves added during restorations may appear within the text. Whenever possible, these have been omitted from filming / Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.
- Additional comments / Commentaires supplémentaires:

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- Coloured pages / Pages de couleur
- Pages damaged / Pages endommagées
- Pages restored and/or laminated / Pages restaurées et/ou pelliculées
- Pages discoloured, stained or foxed / Pages décolorées, tachetées ou piquées
- Pages detached / Pages détachées
- Showthrough / Transparence
- Quality of print varies / Qualité inégale de l'impression
- Includes supplementary material / Comprend du matériel supplémentaire
- Pages wholly or partially obscured by errata slips, tissues, etc., have been refilmed to ensure the best possible image / Les pages totalement ou partiellement obscurcies par un feuillet d'errata, une pelure, etc., ont été filmées à nouveau de façon à obtenir la meilleure image possible.
- Opposing pages with varying colouration or discolourations are filmed twice to ensure the best possible image / Les pages s'opposant ayant des colorations variables ou des décolorations sont filmées deux fois afin d'obtenir la meilleure image possible.

This item is filmed at the reduction ratio checked below / Ce document est filmé au taux de réduction indiqué ci-dessous.

10x		14x		18x		22x		26x		30x									
								✓											
								24x		28x		32x							

The copy filmed here has been reproduced thanks to the generosity of:

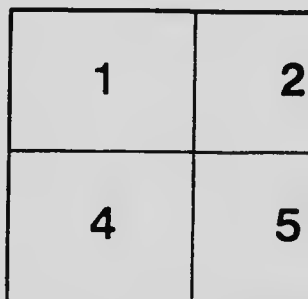
Library  
Agriculture Canada

The images appearing here are the best quality possible considering the condition and legibility of the original copy and in keeping with the filming contract specifications.

Original copies in printed paper covers are filmed beginning with the front cover and ending on the last page with a printed or illustrated impression, or the back cover when appropriate. All other original copies are filmed beginning on the first page with a printed or illustrated impression, and ending on the last page with a printed or illustrated impression.

The last recorded frame on each microfiche shall contain the symbol  $\rightarrow$  (meaning "CONTINUED"), or the symbol  $\nabla$  (meaning "END"), whichever applies.

Maps, plates, charts, etc., may be filmed at different reduction ratios. Those too large to be entirely included in one exposure are filmed beginning in the upper left hand corner, left to right and top to bottom, as many frames as required. The following diagrams illustrate the method:



ks

L'exemplaire filmé fut reproduit grâce à la  
générosité de:

Bibliothèque  
Agriculture Canada

Les images suivantes ont été reproduites avec le  
plus grand soin, compte tenu de la condition et  
de la netteté de l'exemplaire filmé, et en  
conformité avec les conditions du contrat de  
filmage.

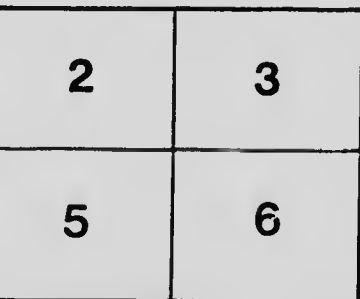
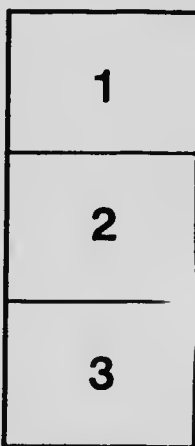
d  
-  
0

Les exemplaires originaux dont la couverture en  
papier est imprimée sont filmés en commençant  
par le premier plat et en terminant soit par le  
dernière page qui comporte une empreinte  
d'impression ou d'illustration, soit par le second  
plat, selon le cas. Tous les autres exemplaires  
originaux sont filmés en commençant par le  
première page qui comporte une empreinte  
d'impression ou d'illustration et en terminant par  
le dernière page qui comporte une telle  
empreinte.

Un des symboles suivants apparaîtra sur le  
dernière image de chaque microfiche, selon le  
cas: le symbole  $\rightarrow$  signifie "A SUIVRE", le  
symbole  $\nabla$  signifie "FIN".

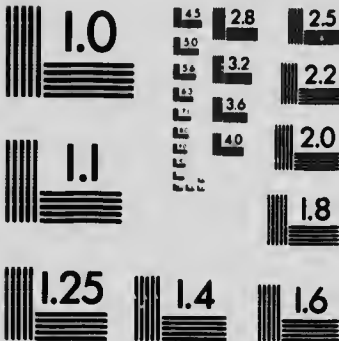
Les cartes, planches, tableaux, etc., peuvent être  
filmés à des taux de réduction différents.

Lorsque le document est trop grand pour être  
reproduit en un seul cliché, il est filmé à partir  
de l'angle supérieur gauche, de gauche à droite,  
et de haut en bas, en prenant le nombre  
d'images nécessaire. Les diagrammes suivants  
illustrent le méthode.



# MICROCOPY RESOLUTION TEST CHART

(ANSI and ISO TEST CHART No. 2)



**APPLIED IMAGE Inc**

1653 East Main Street  
Rochester, New York 14609 USA  
(716) 482-0300 - Phone  
(716) 288-5989 - Fax



PROVINCE OF BRITISH COLUMBIA

DEPARTMENT OF AGRICULTURE.  
(LIVE-STOCK BRANCH.)

## CLOVER DODDER.

BY J. C. READEY, SOIL AND CROP INSTRUCTOR.

**T**HIS pest of clover and alfalfa is a parasitic plant belonging to the Mornlug glory family. The rapidity with which it is establishing itself in new and widely separated districts throughout the Province makes it advisable that our farmers should acquaint themselves with the appearance of its seed and its habit of growth. There are about a hundred species of this plant, but only one species, technically known as *Cuscuta epithimum*, has been reported in this Province. Another species, *Cuscuta arvensis*, is reported to have done a good deal of damage in some of the alfalfa-growing States. The seeds of the latter are larger than those of the species prevalent with us, and are difficult to separate from the alfalfa-seed. Our farmers would do well to guard against its introduction.

### THE SEED.

The seeds are of a light reddish colour, from 1-32 to 1-16 inch in diameter. Under an ordinary lens they appear to be short and irregularly kidney-shaped; under a low-power microscope they appear to be more of a conical shape, slightly hollowed in the base, and seem to be covered with minute crystals. A wire screen of a mesh of 1-20 inch will remove the seed quite effectively from alfalfa-seed, but in the case of clover-seed a quantity of the smaller seed will pass through with the dodder-seed.

The seed is of strong vitality and will live over in the soil for two or three years. Wherever it is known that dodder has ripened on a field, ploughing should not be done deeply, else the upper layer of soil may be freed from the pest, but the lower soil hold the seed and allow the possibility of reinfesting the land at some future time.

### THE PLANT.

The seed germinates in the soil in the usual way. The plant soon comes in contact with the clover or alfalfa and attaches itself to it by tiny "suckers," and shortly afterward loses its own roots. For the remainder of its life it seems to depend on the juices of other plants for its sustenance. The stalks or vines are reddish in colour and twice about the clover or alfalfa plant, but rarely grow out to the tips of these plants, seeming to prefer the shade and moisture lower down. The flowers are quite small, a pinkish white in colour, and grow in dense clusters. The ripened pods contain from one to four seeds.

The pest usually starts in small centres, gradually extending the area of its work in what are called "rings." Within these "rings" a dense "mat" forms.



composed of the twisted vines of the dodder and the trifoliate clover. These "rings" are formed by the tips of the vines reaching out in all directions and attaching themselves to other clover-plants.

#### METHOD OF CONTROL.

Where only a few small "rings" appear, these may be controlled by mowing the clover and dodder into the centre of the "ring," allowing the pile to dry and burning it. Where this is done, a large enough area should be included in the "ring" to make sure that no straggling vines have been left to mature seed. It will also be necessary to inspect the mowed area subsequent to the burning to see that none of the vines twisted close to the roots of the clover close to the ground have survived. If any survive the burning they may succeed in producing seed.

Where large areas are affected, the best-known method is to plough shallow and follow with frequent cultivations. Land badly infected should not be resceded to clover for at least two years, but should be summer-fallowed or sown to inter-tillage crops. As in the case of all other pests that are allowed to gain a foothold, the eradication of the dodder means an additional expense and a consequent reduction of profits.

The farmer can scarcely be too careful in the purchase of his seed. Good seed costs more, but is generally the cheapest in the end.

If, however, the pest has gained a foothold, prevention of traffic between infected and uninfected areas will help to control the dissemination of the dodder-seed. There is danger of infection from the feeding of hay containing the dodder-vines, hence care should be exercised in the purchase of feed. A good system of rotation of crops will also help to check the hordes of this weed, as well as those of other weeds, insect and fungus pests.

VICTORIA, B.C.:

Printed by WILLIAM H. CULLIN, Printer to the King's Most Excellent Majesty.

1913.





